MAINE STREAM TEAM PROGRAM

Maine Stream Team Program NEWS

Networking, Education, and Stewardship

Volume 3 Issue 1 **Winter/Spring 2003**

Stream Team Profiles:

Great Works River Stream Team

Submitted by Forrest Bell

North Berwick- The Great Works River Stream Team conducted a Stream Habitat Walk along the Great Works River on Saturday morning, September 21, 2002. During this Stream Habitat Walk, 12 watershed citizens along with representatives of the Maine Stream Team Program observed and recorded information on a quarter-mile of the main stem of the Great Works River directly below Morrell's Mill Dam at the outlet of Bauneg Beg Lake. The citizens are all members of the Great Works River Watershed Coalition (GWRWC), a volunteer nonprofit organization dedicated to preserving the aquatic health of the Great Works River and its tributaries.

The GWRWC was formed in May of 2001 and its accomplishments include the development of a

Continued of page 7...

Volunteers at the Great Works River Stream Habitat Walk

Hall-Dale Students Explore a Local Forest and Stream

Submitted by Mary Dunn

Hallowell- Over a three-month period students of Hall-Dale Middle School explored Vaughn Woods, a private educational forest behind their school in Hallowell. This came to be a great real life study focusing on forests and streams. The owners of the forest died and left the management of the woods in the hands of their grown children. We volunteered to begin a study of the woods in order to help the owners answer the question, "What is the best way to manage Vaughn Woods?"

The students worked in small groups investigating forest management issues and stream health. After some large group brainstorming, the students chose topics to research and study. The culminating activity/ assessment will be a Community Education Evening some time in March (maple syrup making time) where the

Continued on page 7...

Inside this issue:

Welcome New Stream Teams!!

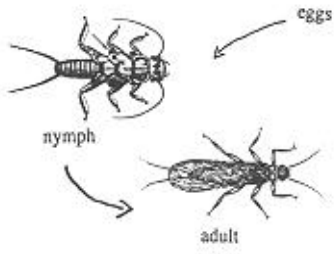
#46 Kenduskeag Stream Team

#47 Hall-Dale Vaughn Brook Stream Team

Critter Corner: Small Winter Stoneflies

Winter is a time of dormancy and hibernation for some creatures. In streams, during the harsh winter weather, many aquatic insects continue to develop as larvae or, in some cases, as adults. The adult forms of many of these larvae emerge during warmer periods of the year. However, two families of stoneflies, the "small winter stoneflies" (Family: Capniidae) and the "winter stoneflies" (Family: Taeniopterygidae), have species that develop and emerge as adults during the winter months. These unique macroinvertebrates are among the few insects to have their life cycle reversed from other aquatic and terrestrial insects.

This article focuses on the “small winter stoneflies.” This species of stonefly is believed to be darker in color than other stoneflies so they can absorb more heat from the sun. Small winter stoneflies can often be seen crawling around on the snow and ice surrounding many pristine Maine streams and rivers. This highly sensitive insect is intolerant to pollution and is often used as an indicator of water quality.



The eggs of small winter stoneflies hatch in late winter or early spring. Once the water begins to warm, the larvae migrate downward through cracks and spaces in the stream bottom and eventually settle down in the *hyporheic zone*, an area of loose sand, gravel and cobble found beneath the upper surface of streambeds in many streams. (Hyporheic zones are regions where surface water and groundwater mix). A life history phase known as “diapause” typically follows for 3-6 months, and during this period of inactivity the stoneflies stop growing and developing. As the stream water begins to cool, the larvae become active again and feed and grow rapidly through fall and winter. By winter, development is completed and the stoneflies remain active as adults. The harsh cold temperatures are avoided by escaping into tiny caverns in the snow and ice.

These amazing organisms inhabit riffles and free flowing waters and are most common in small streams. Small winter stoneflies are known as “shredders” because of their feeding behaviors. They play a significant role in the breakdown of terrestrial leaves and twigs that fall into streams, and they make this organic debris available to other organisms in the form of smaller particles. Studies have shown that larvae can consume up to 30% of their body weight each day, even during the coldest winter months. Small winter stoneflies, along with all other families of stoneflies, serve as an integral source of protein for other invertebrate predators such as fish, birds, and salamanders.

Top: Capniidae Adult; Bottom: Capniidae Larvae

Keep your eyes out for these hardy stoneflies the next time you walk along a stream. You may be delightfully surprised and amazed by the adaptive qualities of these freshwater invertebrates.

Cool Aquatic Insect Link:

http://www.epa.gov/bioindicators/html/indicator.html

Recent Publications:

1) **A Guide to Common Freshwater Invertebrates of North America** (2002)
by J. Reese Voshell, Jr.

Regular price: $29.95
Special offer: Through March 21, 2003, orders of 5 or more books will receive a discounted price of $20.97 per book they are placed by an organized group, agency, or institution involved in some way with the study, monitoring, interpretation, or stewardship of freshwater resources. For more information, contact the McDonald & Woodward Publishing Company at 1-800-233-8787 or visit <www.mwpubco.com>.

2) **Ecological Atlas of the Upper Androscoggin River Watershed** (2003)
by the Appalachian Mountain Club

The MSTP has learned that CD-ROMs of the Atlas are available for free (although shipping costs may apply) in an Adobe Acrobat (.pdf) format. For more information, contact David Publicover at (603)466-2721 ext. 200

Calendar

Do you have calendar items for us? Please contact us by April 7, 2003.

Volunteer Coordinator's Conference: February 27, 2003. The Maine Maritime Museum, Bath, Maine. The members of the Association of Volunteer Directors (Mid-Coast Region) invite you to join them for a day of training and networking. For more information contact Lillian Kerr Haversat at 593-9279 or e-mail: <lillianandjim@worldnet.att.net>

Going Green for St. Patrick's Day Fair: March 15, 2003. York Public Library, York, Maine. A free day full of information booths, activities, presentations, handouts, and children's activities designed to increase environmental awareness, and help people take steps to decrease environmental impacts in their daily lives. Contact Dawn Morse for more information at 207-646-1555 x117 or by e-mail: <dawnmorse@wellsnerrcec.lib.me.us>

MainE Stream Summit (The MESS): March 27, 2003 (snow date April 10th). Bowdoin College, Brunswick, ME. Please join us for a one-day gathering featuring citizen and school group presentations on their monitoring, research, restoration, and stewardship work on local streams and rivers, plus workshops on related topics and networking opportunities. See attached brochure for details and registration information. Contact the Maine Stream Team Program for more information at 1-888-769-1036 (toll-free in Maine) or e-mail: <mstp@maine.gov>

Maine Water Conference: April 16, 2003. Augusta Civic Center, Augusta, ME. The Maine Water Conference is an annual forum sponsored by the Senator George Mitchell Center for Environmental and Watershed Research. Citizens, students, water resource professionals, researchers, regulators and planners exchange information and ideas on water resource issues in Maine. Topics range from sprawl and water resources to stormwater and waste water issues. For more information go to <www.umaine.edu/WaterResearch> or call the George Mitchell Center at 207-581-3244.

Maine Land Conservation Conference: May 2-3, 2003. Location TBA. The Friday, May 2nd portion of the conference will entail an afternoon workshop focusing on how to weave land trusts into their communities and working with local government on planning. A reception will follow. Saturday, May 3rd will start off with a keynote presentation by Maine Public Radio's Naomi Schalit and will be followed by 30 workshops for land conservationists of all levels. For more information go to <www.mltn.org> or contact Megan Shore, the Maine Land Trust Coordinator, for more information at 207-729-7366 or e-mail: <mshore@mcht.org>

Stream Teachers Workshop: May 8, 2003. Sebago Lake Ecology Center. The Portland Water District is conducting a stream-side workshop in celebration of Drinking Water Week. The 6 hour workshop will teach the skills necessary to develop a stream curriculum and provide hands-on field experience to bring back to your class. Contact Courtney Belolan at the Portland Water District for more information at 207-774-5961 x3319 or e-mail: <cbelolan@pwd.org>

$$ Grant Opportunities $$

Funder	Region	Deadline	Phone	Web Site/*E-mail*
Cottonwood Foundation	National	Revolving	(651) 426-8797	www.cottonwoodfdn.org/howapply.htm
Haymarket People's Fund	CT, **ME**, NH, RI and VT	Revolving	(617) 522-7676	www.haymarket.org *tommie@haymarket.org*
The Timberland Company	National	Revolving		www.timberland.com (search for "grants" under the "corporate" category)
Jessie B. Cox Charitable Trust	New England	Revolving	(617) 557-9775	www.agmconnect.org/cox.html *dso@hembar.com*
Cabot Family Charitable Trust	New England, emphasis on MA	February 1	(617) 451-1744	*rcscabot@aol.com*
John Sage Foundation	Maine	February 15	(207) 722-3543	www.megrants.org/Johnsagefront.html *donjane@prexar.com*
Maine Outdoor Heritage Fund	Maine	March 1	(207) 688-4191	http://janus.state.me.us/ifw/outdoorheritage/ohf-howtoapply.htm
The Orchard Foundation	**ME**, NH, VT, MA, RI, CT and NY	March 1	(207) 799-0686	www.orchardfoundation.org *orchard@maine.rr.com*
NOAA/EPA Five Star Restoration Challenge Grant	National	March 3	(202) 857-0166	www.nmfs.noaa.gov/habitat/restoration/community/fivestar.htm
FishAmerica Foundation NOAA Community Restoration Program	Coastal States	March 12	(703) 519-9691	www.fishamerica.org *fishamerica@asafishing.org*
American Rivers	Northeast, mid-Atlantic, California	April 1		www.amrivers.org/feature/restorationgrants.htm
New England Grassroots Environment Fund	CT, MA, **ME**, NH, RI, and VT	May 1	(802) 223-4622	www.grassrootsfund.org *info@grassrootsfund.org*
Oracle	National	June 1		www.oracle.com/corporate/giving/community/index.html
Tom's of Maine, Inc.	National (emphasis on **ME**)	September 1	(207) 985-3982	www.tomsofmaine.com/about/grants.asp

Oral Presentation–15 minute limit:
(limited number, so please register early)

Title of Presentation: _____

_____

Brief Summary (attach further details if necessary): _____

_____

_____

_____

_____

_____

_____

Equipment: We will be in contact with you regarding your specific presentation equipment needs shortl y after receiving your registration form.

If there are no spaces left for an oral presentation, would you still want to bring a poster or exhibit?

☐ YES ☐ NO

Summit Cost: (see reverse side for mailing information)

Registration includes lunch, snacks and beverages

Early Registration (prior to March 5th):
- $10 for adults, $5 for students (K–12)

Late Registration (after March 5th) and Walk–Ins:
- $15 for adults, $7.50 for students (K–12)

If there are financial barriers to you attending the Maine Stream Summit please contact us soon about possible scholarsh ips.

Afternoon Workshops Topics

Please rank your 1st, 2nd, 3rd and 4th choices for workshops. We are offering workshops based upon interest levels. Not all works hops will be offered.

_____ Case Study: The Impacts of Urbanization on Two Southern Maine Streams (Long Creek and Red Brook)

_____ Basic Stream Ecology: Life Cycles, Organisms, Food Webs, Habitat, Pollution and Other Threats

_____ Introduction to Aquatic Insects and Other Macroinvertebrates

_____ Monitoring & Identification Techniques for Aquatic Insects and Other Macroinvertebrates

_____ Basic Monitoring Techniques for Water Quality

_____ How to Deal with Data–Managing and Presenting Water Quality Data

_____ Outreach Service Projects

_____ Study Design Tips

_____ Leaf Pack Aquatic Insect Studies and Stream Embeddedness Monitoring

_____ Bacterial Source Tracking–Genetic Techniques to Determine the Source of Fecal Contam i-nation (human, pet, or wildlife waste, etc.)

_____ Rainfall, Runoff, and Flow

_____ Introduction to Stream Habitat Walks

_____ Monitoring Physical Habitat and Channel Change Along Streams

Organized by the Maine Department of Environmental Protection, Bowdoin College, The Maine Stewardship Alliance, and the University of Maine.

MainE Stream Summit 2003

(The MESS)

Supporting science and stewardship of Maine's streams and rivers

Thursday, March 27, 2003

(snow date: Thursday, April 10, 2003)

8:30 am—3:00 pm

Bowdoin College
Brunswick, Maine

MainE Stream Summit 2003

A one-day gathering of citizen and school groups (of all ages) sharing their monitoring, research, restoration, and other stewardship work on local streams and rivers.

Schedule of Events:

8:30	Registration
9:00	Keynote speaker
9:30	15-minute presentations by monitoring groups
12:00	Fair & Lunch
1:30	Workshop Session 1
2:10	Afternoon break
2:20	Workshop Session 2
3:00	Adjourn

- Keynote speaker: Don Sprangers and Student Representatives of the Washington Academy Watershed Team (East Machias, ME) – First Place Winners of the 2002 National Youth Watershed Summit.
- Dynamic oral presentations, posters and exhibits: citizen and school groups share their projects conducted on local streams and rivers.
- Topic workshops: Presentations, discussions, and hands-on activities focused on stream ecology, monitoring, the "how-tos" of study design, dealing with data, and age-appropriate activities.
- Stream monitoring "fair" with display tables for equipment, methods, strategies, teaching tools, demonstrations, and other stream monitoring and stewardship resources and ideas.

Purpose of the MainE Stream Summit

- Hear what local groups are learning from the streams they monitor and about their stewardship projects
- Provide opportunities for students to share their work
- Recognize the successes of local monitoring and stewardship groups
- Help groups locate resources, meet people with similar interests, and generate new ideas

Each group is invited to bring up to 3 presenters. (teachers, students, citizens, mix)

MAKE CHECKS PAYABLE TO:

BOWDOIN COLLEGE

PLEASE RETURN CHECK AND REGISTRATION TO:

Maine Stream Team Program
Department of Environmental Protection
312 Canco Road
Portland, ME 04103

Please contact MaryLee with questions at 1-888-769-1036 (toll-free in Maine) or e-mail: <MaryLee.A.Haughwout@maine.gov>

REGISTRATION FORM

Registration Deadline: March 5th

Name: _____

Organization/School/Stream Team (if applicable):

_____

Mailing Address: _____

Town: _____

State: _____ Zip: _____

Telephone: _____

E-mail: _____

Category (check all that apply):

☐ Elementary School ☐ College

☐ Middle School ☐ Adult

☐ High School ☐ Other _____

Are you interested in doing an oral presentation or participating in the poster/exhibit session?

☐ No ☐ Yes, oral presention ☐ Yes, poster/exhibit

Co-presenters (if applicable):

Name: _____

Name: _____

Do you need a table or wall for your display? (please circle one)

-over-

Great Works River Habitat Walk Continued…

Volunteers surveying the Great Works River

water quality monitoring program which covers 17 sample sites over a 15 mile stretch of the Great Works River.

The data collected on the Stream Habitat Walk will assist the GWRWC in learning more about the main stem of the Great Works River. To date there has been very little information recorded on the river so any new baseline information will enable the GWRWC to make better decisions if any restoration work is proposed for the watershed. In addition to the value of the data, the Stream Habitat Walk allowed local citizens to get to know (and appreciate) their local river and learn the biology of the aquatic system they are working hard to protect. Some interesting observations noted on the Stream Habitat Walk in September included identifying the presence of iron bacteria near the dam and the effect that the presence of the dam is having on the geomorphology and biological makeup of the river downstream. The volunteers mentioned that they were glad to be rewarded with near-perfect weather for the event and the presence of hot pizza after rugged hiking and wading along the river.

The Great Works River Stream Team plans to conduct at least one Stream Habitat Walk each season with the continued guidance from the Maine Stream Team and agency partners.

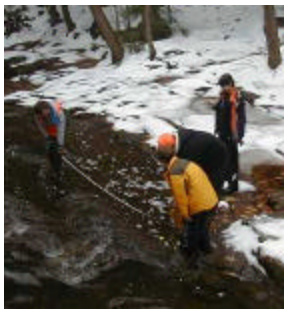
For more information please contact Forrest Bell, Project Manager, Great Works River Watershed Coalition at 207-839-3511 (email: fbenviro@maine.rr.com).

Hall-Dale Continued…

students will present their information to parents and community members. The students chose to do this as a way to address vandalism and other issues around disrespectful behaviors that occur in and to the woods. This made a great Community Action Research Project.

Information was obtained from some forest/stream data collection, the Internet, community experts, and print resources. We incorporated the Maine Learning Results in many of our goals and objectives. I wish I could say what an overwhelming success this exploration was. Certainly learning occurred and student thinking was challenged and expanded, and awareness of the fragility of the woods as a system was raised. But the ongoing issues of how to successfully manage 100+ students (20-25 at a time), so that optimal learning occurs in the forest and near a stream with as little impact to the area as possible, continues to be an overriding issue.

Two days in November the 7th period class met with the Maine Stream Team to discuss water quality monitoring and to test the water quality of Vaughn Brook. Students first learned what testing for dissolved oxygen, pH, turbidity, temperature, conductivity, coliform and flow tells us about stream health. Then this knowledge was exercised in the field. The class, armed with clipboards, pencils and sampling tubes, trekked down to the brook and used the monitoring equipment in small groups. Data was recorded and test results will be incorporated into some of the students research projects.



Student Research Topics:

- Stream Health
- Forest Types
- Tree I.D.
- Forest Fires
- ATV's and Erosion
- Dog Waste: Effects in a Forest and Stream
- Deer Population Controls
- Clear Cutting
- Trail Maintenance
- Vandalism: Effects of and Prevention
- Positive Effects of Forest Visiting on People

The Hall-Dale 8th grade science classes are a new Stream Team! Welcome.

Maine Stream Team Program
c/o Maine DEP
312 Canco Road
Portland, Maine 04103

Return Service Requested

How Do I Join the MSTP?

It's easy! First, choose a stream or stream segment. Next, either obtain a "stream team registration form" by contacting us or filling out the online registration form. After registering, you will receive some helpful information and begin to receive our quarterly newsletter to help you stay up-to-date.

Membership to the program is free to any interested citizen, family, or organization. Once you have a "Team" and a stream, you're set! You can determine your stream's values and problems and you can plan projects based on your assessments. You establish the course of events in protecting your stream. The Maine Stream Team Program can help you with ideas, advice, and informational materials.

Contact The Maine Stream Team Program (MSTP):

Mail: Maine Stream Team Program, c/o Maine DEP, 312 Canco Road, Portland, ME 04103

E-mail: mstp@maine.gov **Internet**: www.state.me.us/dep/blwq

Please note: our e-mail address has changed

Phone: (888)769-1036 (toll free – ask for the Maine Stream Team Program); (207)822-6317 [Jeff Varricchione, Portland, coordinator]; (207)822-6427 [MaryLee Haughwout, Portland]; (207) 287-7729 [Mary-Ellen Dennis, Augusta]; (207)941-4566 [Mark Whiting, Bangor]

Deadline for submitting calendar items, articles, or photos for the spring newsletter is April 7, 2003.

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